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EXAMINER

KADING, JOSHUA A

ART UNIT

PAPER NUMBER

2661

DATE MAILED: 03/10/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/746,179

Applicant(s)

GAIL ET AL.

Examiner

Joshua Kading

Art Unit

2661

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1, 2, and 21 is/are allowed.
- 6) ☒ Claim(s) 3-15, 18-20 and 22 is/are rejected.
- 7) ☒ Claim(s) 1, 3, 5-7, 9, 11, 13, and 16-22 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 19 February 2002 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 6.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Drawings

The drawings are objected to because Figure 7 has an arrow pointing to column F and it is unclear what this arrow is supposed to represent; Figure 8A, element 206 "STw" should be changed to -- σ Tw--. A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The disclosure is objected to because of the following informalities: Page 1, line 5, page 18, line 8, and page 42, line 15 make reference to patent applications, however, the serial numbers to identify the applications are blank.

Appropriate correction is required.

Claim Objections

Claims 1, 3, 5, 6, 7, 9, 11, 13, 16, 17, 18, 19, 20, 21, and 22 are objected to because of the following informalities:

Claim 1, line 4; claim 3, line 9; claim 11, line 5; claim 13, line 6; claim 16, line 4; claim 18, line 4; claim 20, line 4; claim 21, line 6; and claim 22, line 4 all state, "the standard deviation". There is no antecedent basis for this, and it should be changed to -- a standard deviation--.

Art Unit: 2661

Claim 1, line 6; claim 3, line 11; claim 5, line 5; claim 6, lines 5-6; claim 13, line 1; claim 18, line 6; claim 20, line 6; claim 21, line 8; and claim 22, line 6 all state "the...discrete utilization" or "the current utilization". There is no antecedent basis for these, and they should be changed to --a...discrete utilization-- or --a current utilization-- where appropriate.

Claim 1, line 7; claim 16, line 3; claim 18, line 7; claim 20, line 7; claim 21, line 9; and claim 22, line 7 all state, "the ratio". There is no antecedent basis for this, and it should be changed to --a ratio--.

Claim 3, lines 5 and 6 both state, "the best time". There is no antecedent basis for these, and they should be changed to --a best time--.

Claim 3, line 7 states, "the length". There is no antecedent basis for this, and it should be changed to --a length--.

Claim 3, line 8 should have the word "network" deleted.

Claim 5, line 4 states, "the capacity". There is no antecedent basis for this, it should be changed to --a capacity--.

Claim 6, lines 2-3 state, "the minimum number". There is no antecedent basis for this, and it should be changed to --a minimum number--.

Claim 6, line 4 should have the word "actual" deleted.

Claim 7, line 3 states, "the number of". There is no antecedent basis for this, and it should be changed to --a number of--.

Claim 9, line 2; and claim 13, line 5 state "the average". There is no antecedent basis for this, and it should be changed to --an average--.

Art Unit: 2661

Claim 13, line 3 should have the word "and" deleted.

Claim 16, lines 3-4 state, "the wait time". There is no antecedent basis for this, and it should be changed to --a wait time--.

Claim 16, line 5 should have the word "queue" deleted because there is no antecedent basis for it.

Claim 19, line 2 states, "further for calculating". It should be changed to --further comprising: calculating--.

Appropriate correction is required.

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 3-10 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Claims 3 and 4 state, "responsive to said T_w and σT_w , calculating [a] discrete utilization (p) of said network." It is unclear from the specification how T_w and σT_w are used to calculate p . On page 47 of the specification, applicant discloses an equation for

Art Unit: 2661

finding the ratio of σTw and TW using p . However, the specification lacks a specific equation on how to calculate p using Tw and σTw .

Claims 5-6 state, "responsive to said test packets, deducing [a] capacity of said network, its latency, and [a] current utilization of said capacity." How are these attributes "deduced" from the test packets? The specification is silent on equations or calculations using test packets to determine capacity, latency, and current utilization of the capacity. For instance page 12, lines 17-20 discuss calculating capacity, utilization, and performance with not links or mention of an equation to aid in the calculations.

Claims 7-10 state, "responsive to said test packets, determining as a maximum network discrete utilization [a] number of messages queued per network hop count; and responsive to said minimum network discrete utilization and said maximum network discrete utilization, determining a best approximation of end to end discrete utilization." How are said test packets used to determine a number of messages queued per network hop count? For instance page 50, uses the utilization to determine number of messages queued, but the specification is silent on how the test packets are used in this calculation?

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Art Unit: 2661

Claims 5, 11-12, 18, and 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 5 discloses "responsive to said test packets..." It is unclear what "responsive to test packets" means. Does being responsive mean the test packets used in a calculation? Or are they used as a trigger of some kind once they reach the receiver? Or do they simply carry data that is stored once it is received?

Claims 11-12 discloses "determining network utilization". It is unclear which type of utilization applicant is referring to. For example, page 43 starting on line 12 of the specification, a streaming network utilization is disclosed. However, on page 51 starting on line 14 a network discrete utilization is disclosed.

Claim 18 is an apparatus claim defined by the system for evaluating a network. However, line 6 discloses a method step, i.e. "calculating". It is unclear how this method step is part of the system. There is no apparatus defined to perform the calculating.

Claim 19 depends from claim 18 and is thus an apparatus claim as well. However, claim 19 discloses the method steps of "calculating", "determining", and "adjusting" on lines 2, 4, and 5. It is unclear how these method steps are part of a system. That is to say, it is unclear what the system is. Is it an apparatus or a computer

Art Unit: 2661

program? If it is an apparatus, the method steps disclosed are not sufficient on their own, they need an apparatus to perform them. If it is a computer program, applicant is reminded that a computer program must be embedded on a computer readable medium and be part of a statutory manufacture or machine as defined in the MPEP § 2106.04.B.1.

Claim 19 states, "calculating change in network traffic before network response time service level is compromised". It is unclear what this means. What is "calculating change in network traffic"? What is "network response time service level"?

Claim 22 discloses "a computer program product or computer program element". It is unclear what a computer program product or element means. Is it the actual computer program? Or is it the medium on which the program is delivered? Applicant is reminded that a computer program must be embedded on a computer readable medium and be part of a statutory manufacture or machine as defined in the MPEP § 2106.04.B.1.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claim 18 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. On line 2 "an apparent network speed analysis application", and on line 9 "a service level and capacity planning routine" is disclosed. An "application" and a "routine" are computer programs in the context of applicant's application. Applicant is reminded that a computer program must be embedded on a computer readable medium and be part of a statutory manufacture or machine as defined in the MPEP § 2106.04.B.1.

Claim 19 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. On lines 1 and 2 "said service level and capacity planning routine" is disclosed. A "routine" are computer programs in the context of applicant's application. Applicant is reminded that a computer program must be embedded on a computer readable medium and be part of a statutory manufacture or machine as defined in the MPEP § 2106.04.B.1.

Claim 20 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter. A variety of "program modules" are disclosed in claim 20. A "program module" is a computer program. Applicant is reminded that a computer program must be embedded on a computer readable medium and be part of a statutory manufacture or machine as defined in the MPEP § 2106.04.B.1.

Claim Rejections - 35 USC § 102

Art Unit: 2661

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claim 13 is rejected under 35 U.S.C. 102(e) as being anticipated by Kim et al. (U.S. Patent 6,219,704 B1).

Regarding claim 13, Kim discloses “a method for evaluating [a] discrete utilization of a network, comprising the steps of

transmitting through said network time stamping probative samples (figure 5, element 3100 shows the samples with measurements of delays or with the time stamping as is known in the art); and

responsive to said samples, calculating [an] average wait time and [a] standard deviation of average delay of said network (col. 5, lines 57-65 shows the average delay or wait time being calculated; col. 6, lines 7-10 shows the standard deviation being calculated).”

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

Art Unit: 2661

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. in view of applicant's admitted prior art.

Regarding claim 14, Kim discloses the method of claim 13. Kim lacks "said samples comprising one way echo packets." However, applicant's admitted prior art discloses "said samples comprising one way echo packets (specification, page 3, lines 1-6 where the ping packets are echo packets; page 4, lines 3-5 where it is suggesting the packets are sent one way)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the one way echo packets with the method of claim 13 for the purpose of determining different network characteristics such as bandwidth, delay time, and queueing time. The motivation being to accurately predict network conditions for actual data transmission.

Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kim et al. in view of McKee et al. (U.S. Patent 5,477,531).

Regarding claim 15, Kim discloses the method of claim 13. Kim lacks "said samples comprising two way echo packets." However, McKee discloses "said samples comprising two way echo packets (col. 4, lines 10-21)." It would have been obvious to one with ordinary skill in the art at the time of invention to include the two way echo packets with the method of claim 13 for the purpose of determining network

Art Unit: 2661

characteristics. The motivation being to accurately predict network conditions for actual data transmission.

Allowable Subject Matter

Claims 16 and 17 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

The following is a statement of reasons for the indication of allowable subject matter: Claims 1-2, and 21 are allowable because the prior art of record lacks, in combination with other claim limitations, "[a] ratio of said average message delay to said standard deviation."

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Sherer et al. (U.S. Patent 6,026,095) shows calculation of network delay and standard deviation. Cheung et al. (U.S. Patent ,6515,964 B1) shows network characteristics being determined such as delay and standard deviation. Ahmed (U.S. Patent 5,025,457) shows network delay calculations and deviation calculations. Sidhu et al. (U.S. Patent 6,366,959 B1) shows finding network delays and calculating standard deviations from those delays.

Art Unit: 2661

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joshua Kading whose telephone number is (703) 305-0342. The examiner can normally be reached on M-F: 8:30AM-5PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Douglas Olms can be reached on (703) 305-4703. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



JK
March 4, 2004

Joshua Kading
Examiner
Art Unit 2661



**KENNETH VANDERPUYE
PRIMARY EXAMINER**